

Missouri Childhood Lead Poisoning Prevention Program

Annual Report for Fiscal Year 2010

July 1, 2009 – June 30, 2010



Missouri Department of Health and Senior Services

health.mo.gov/living/environment/lead/index.php

573-751-6102 or 866-628-9891

**Missouri Childhood Lead
Poisoning Prevention Program (CLPPP)
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This report meets the statutory mandate for an annual report per 701.343, RSMo.

About Our Program

PROGRAM MISSION:

Assure the children of Missouri a safe and healthy environment through the primary prevention and identification of lead exposures that may cause illness or death.

The Missouri Department of Health and Senior Services' (DHSS) Childhood Lead Poisoning Prevention Program (CLPPP) was established in 1993 and continues to assure that health care providers have current information and tools available to screen patients 6 years and younger for lead and provide primary prevention education.

The Childhood Lead Poisoning Prevention Program is staffed by the following positions: A Program Manager, a Health Educator, a Surveillance Coordinator, two Data Entry Personnel, two Environmental Specialists and a Case Management Nurse.

State guidelines describe appropriate follow-up of children with elevated blood lead levels (EBL) of at least ten micrograms per deciliter ($10 \mu\text{g/dL}$), which is the level of concern recommended by the Centers for Disease Control and Prevention (CDC).

Follow-up activities and case management are generally provided for children six years and younger with an $\text{EBL} \geq 10 \mu\text{g/dL}$. These activities help the family understand the causes and health effects of childhood lead poisoning. Environmental risk assessments are conducted to identify potential sources of lead exposure for children with an $\text{EBL} \geq 15 \mu\text{g/dL}$ using CLPPP funding. These risk assessments provide the family with information about where lead hazards exist in and around their home. A work plan is developed to reduce these hazards and the risks associated with them. By reducing or eliminating exposures to the environmental sources of lead, the child's current elevation should decrease and repeated elevations prevented. (Note: Children who receive MO HealthNet benefits must have received two lead test results of $15 \mu\text{g/dL}$ or greater at least three months apart for MO HealthNet (Medicaid) to pay for the environmental risk assessment.)

Lead poisoning prevention educational materials are developed and provided to Missouri citizens at various community venues. DHSS works with the local public health agencies (LPHAs), the medical community, other state agencies, businesses, schools and community organizations to prevent childhood lead poisoning. The Missouri CLPPP created Leadosaurus, a dinosaur mascot, to promote lead poisoning prevention messages. The Leadosaurus costume may be loaned by DHSS to any organization in Missouri wanting to increase lead poisoning prevention education and encourage blood lead testing.

The program currently uses the MOHSAIC (**MISSOURI HEALTH STRATEGIC ARCHITECTURES & INFORMATION COOPERATIVE**) database to collect lead-specific data from medical and lead program activities pertaining to children under the age of 6 years. This database is part of a tracking system to provide documentation of medical testing, case management and environmental risk assessments statewide. The data is used to provide comprehensive lead case management services and for statistical information. All child and adult lead test information is tracked in MOHSAIC.

Lead Poisoning in Missouri

Lead poisoning is one of the most common and preventable environmental health problems today. Almost a quarter million children in the United States are estimated to have elevated blood lead levels of at least 10 µg/dL. According to Missouri blood lead testing data for July 1, 2009 through June 30, 2010, there were 906 children under the age of 6 identified with elevated blood lead levels (1 percent of the 98,771 children tested that year).

The primary lead hazard to children in Missouri is deteriorated lead-based paint. Lead-based paint was banned for residential use nationwide in 1978. Any home built before 1978 may contain leaded paint. The highest risk of lead exposure for children is found in homes built before 1950, when most paint contained a high percentage of lead. More than 24 percent of the housing stock in Missouri was built before 1950. Sixty-one counties in Missouri have greater than or equal to 24 percent pre-1950 housing stock (see page 5).

Lead mining and smelting are an important part of Missouri's history. Lead in Missouri was first discovered along the Meramec River by French explorers in the 1700s while searching for gold and silver. Missouri became the dominant lead-producing state in the nation in 1907. It has remained number one ever since. Most early lead production came from the Old Lead Belt district of southeast Missouri in the Park Hills-Bonne Terre area, and in the Tri-State Zinc-Lead district in southwest Missouri around Joplin. Today, all of the state's lead production comes from the New Lead Belt, also known as the Viburnum Trend district. This district is a very narrow, 35-mile-long ore district extending southward from the small town of Viburnum, Iron County, in southeast Missouri. Mining waste products in these areas often end up on driveways, in yards, or even in children's play areas. Dust, air and soil around mining activity have consistently shown elevated levels of lead contamination.

Lead is a shiny, silver-colored metal found naturally in the earth's crust. Lead has historically been used in a variety of ways including in paints, gasoline, batteries, bullets and some vinyl products such as mini-blinds. Fine particles of processed or recycled lead and/or lead dust become a health hazard when they are taken into the body through inhalation (breathing) and/or ingestion (swallowing).

Lead affects almost every organ and system in the body. The effects are the same whether it is breathed or swallowed. Lead damages the brain, central nervous system, kidneys and immune system. Lead in the human body is most harmful to young children under 6 years of age. It is especially detrimental to children less than 3 years of age due to their rapidly developing systems.

A blood test is used to determine lead levels. Lead can be measured in blood drawn from a vein or capillary (finger stick). Blood lead levels are measured and reported as micrograms of lead per deciliter of whole blood (µg/dL).

Statewide Screening Plan

Legislation passed in 2001 required DHSS to promulgate rules and regulations to establish a statewide screening plan. The rules and regulations define criteria for establishing geographic areas in the state considered to be at higher risk for lead poisoning, outline blood lead testing requirements and protocols, and define lead testing follow-up.

In developing these regulations, CLPPP applied Missouri surveillance and census data to establish criteria for Universal Testing (high risk) and Targeted Testing (non-high risk) areas in Missouri. Based upon those criteria, and as required by state statute, the following activities shall occur in these two areas.

In Universal Testing Areas:

- Any child under the age of 6 living in or visiting for more than 10 hours per week in the Universal Testing or high risk area will be tested annually for lead.
- Childcare facilities located in Universal Testing Areas must record a “proof of lead testing” signed by the health care provider within 30 days of the child’s enrollment. The statement must verify that a blood lead test was completed in the previous 12 months. If the parent/guardian does not provide proof or a written statement explaining why they do not want the child tested, the childcare facility is to offer the parent assistance in scheduling a blood lead test.

In Targeted Testing Areas the following activities shall occur:

- From six months to 6 years of age, every child will be screened annually, by verbal risk assessment,* to determine whether they are at high risk for lead poisoning. Risk assessments may indicate the need for blood lead testing at an earlier age (6 months) and/or more frequently.

*The form used for the verbal risk assessment is the [HCY Lead Risk Assessment Guide](#).

- Every child less than age 6, found to be at high risk, will be tested for lead poisoning.
- All MO HealthNet eligible children shall be assessed by the Healthy Child and Youth (HCY) Lead Risk Assessment Guide questionnaire and/or be blood lead tested at the ages stipulated by the Federal Program Guidelines (12 months of age, 24 months of age, or 12 to 72 months of age).

During 2010, Sullivan County transitioned from Universal to Targeted Testing because the number of children tested increased over a three-year period and the percentage of children identified as having an elevated blood lead level decreased. An updated Missouri Lead Testing Areas map is published every year and is available at:

health.mo.gov/living/environment/lead/maps.php

Reporting of Blood Lead Testing

Missouri's diseases and conditions reporting rule ([19 CSR 20-20.020](#)) requires reporting of all blood lead tests both elevated and non-elevated and clarifies demographic patient information required to be submitted with the report. All blood lead test results are required to be reported to the DHSS regardless of the age of the individual or the reported lead level. The data contributes to Missouri's local, regional and statewide statistics on blood lead poisoning.

The following information is required:

- Test conducted
- Results of the test
- Name and address of the attending physician
- Name of the disease or condition diagnosed or suspected
- Date the test results were obtained
- Patient's complete name and home address with zip code
- Patient's age and date of birth
- Patient's sex and race

Health care providers should assure that the laboratory they are using is reporting to DHSS.

LeadCare Analyzers

LeadCare Analyzers are portable and easy-to-use instruments that give results of capillary blood lead samples within minutes. These devices allow the patient to receive a result immediately from the tester. LeadCare Analyzers are very convenient for physicians' offices and local health departments. These devices:

- Prevent the patient from possibly being referred to an entirely different location to have the test done.
- Save time that would be spent waiting on lab results.

The use of these instruments has increased for both providers and local public health agencies.

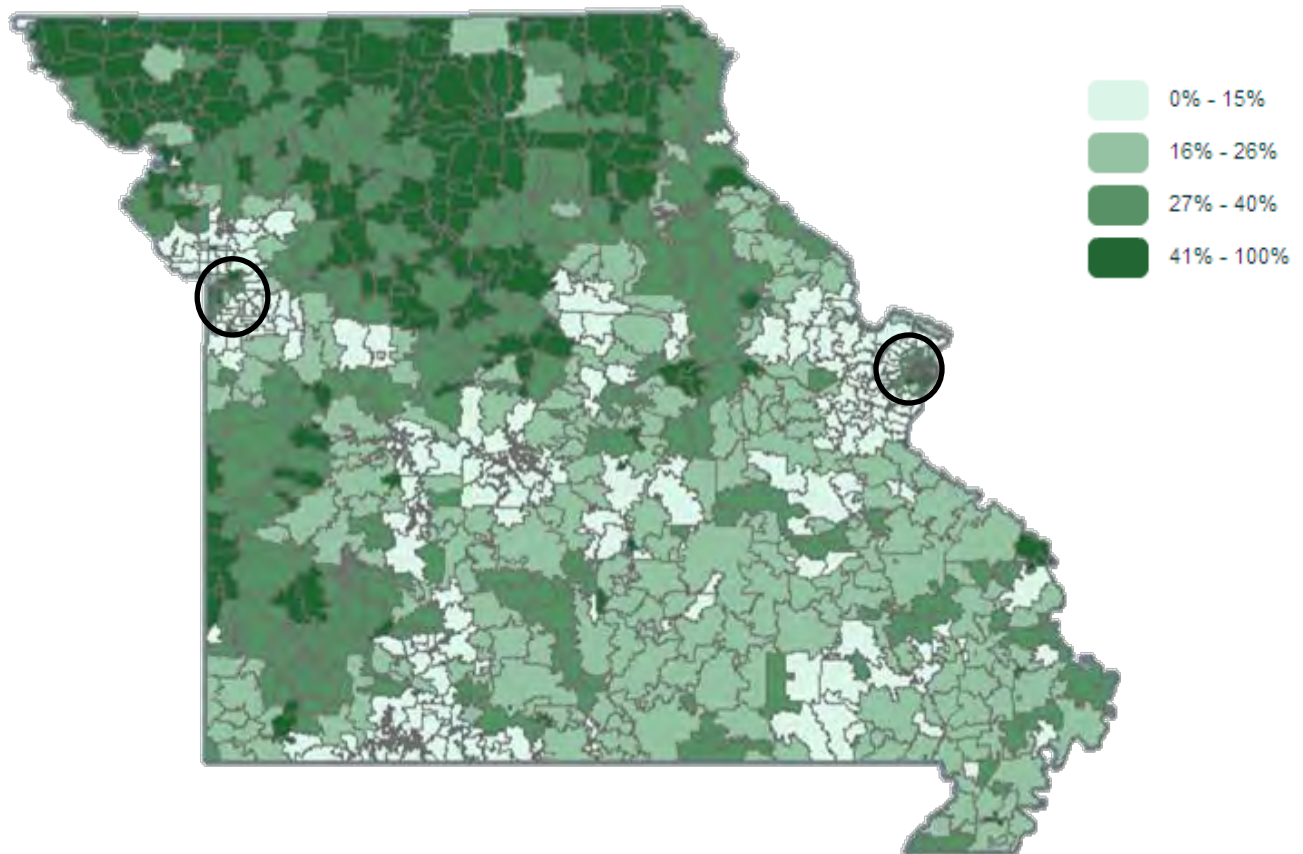
Filter Paper Blood Lead Testing

Filter Paper techniques are acceptable for blood lead testing if health care providers ensure that, as with all blood lead test methods, the chosen laboratory is participating satisfactorily in Clinical Laboratory Improvement Amendments (CLIA) certified proficiency testing (PT) program. For additional information, contact the nurse in the DHSS Childhood Lead Poisoning Prevention Program at 573-751-6102.

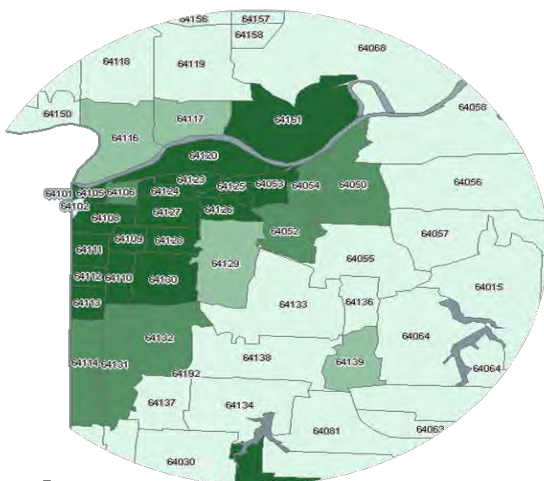
Housing Risks

Nationally, the average percentage of housing built pre-1950 decreased from 27 percent in 1990 to 22 percent in 2000. Missouri is above the national average with 24% of housing units being built before 1950. The map below lists the percentage of pre-1950 housing by zip code according to 2000 census data.

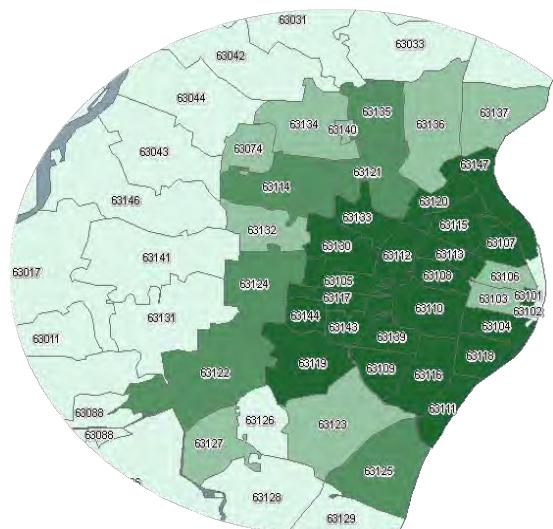
Percent of Missouri Pre-1950 Housing by Zip Code



Kansas City

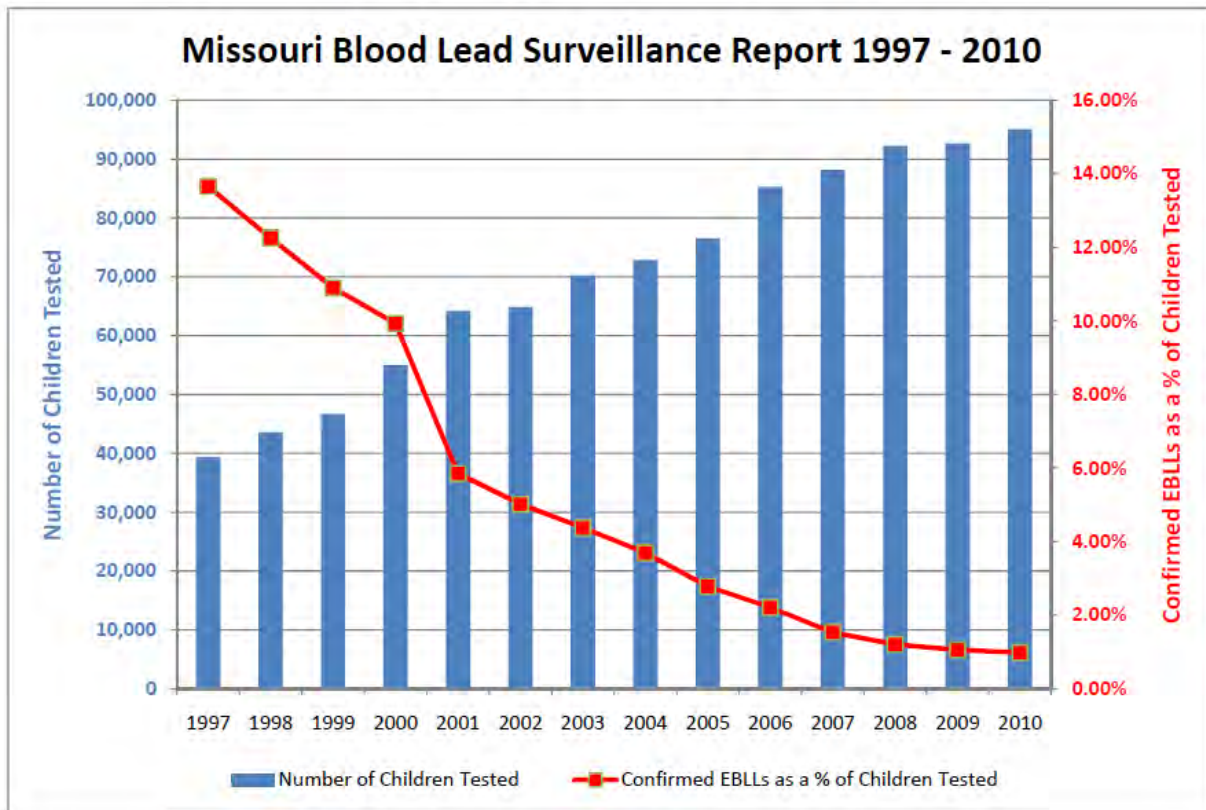


St. Louis



Testing and Prevalence

The number of Missouri's children less than six years old who have been tested for lead poisoning has increased from 50,362 in 2000 to 98,771 in 2010. Of the children tested, the percentage found to have elevated blood lead levels (10 µg/dL or greater) has declined from 11.1 percent in 2000 to 1 percent in 2010. This decrease mirrors a nationwide decrease in children's blood lead levels. In 2010, of the 98,771 children in Missouri who received a blood lead test, 906 had blood lead levels 10 µg/dL or greater.



A few highlights from 2010 testing data...

- There were 98,771 children tested for lead during 2010.
- There were approximately 33.73 percent of children tested in the Universal Testing Areas in 2010 (26,181 of an estimated 77,630 children under age 6 in Universal Testing Areas).
- The number of children found to have an EBL decreased from 5,588 in 2000 to 906 in 2010.
- Of children tested in Missouri, 1 percent have an elevated blood lead level.

A summary of county level blood lead testing data for the period July 1, 2009 through June 30, 2010 is presented on the following pages.

Blood Lead Testing Data by County

For the period of July 1, 2009 through June 30, 2010 for Children Less Than 6 Years of Age

Blood Lead Level Test Results (ug/dl)													
Jurisdiction	Total Tests < 10	10 - 14.9	15 - 19.9	20 - 24.9	25 - 44.9	45 - 69.9	>69.9	Total All Tests	Census Population	Total Population Tested	Total Tests ≥ 10	Total Tested ≥ 10	Pre-1950 Housing
ADAIR	407	1	1	0	1	0	0	410	1,592	26%	3	0.7%	25%
ANDREW	193	1	0	0	0	0	0	194	1,292	15%	1	0.5%	29%
ATCHISON	37	1	0	0	0	0	0	38	367	10%	1	2.6%	52%
AUDRAIN	456	0	0	0	0	0	0	456	2,018	23%	0	0.0%	31%
BARRY	379	2	1	0	1	0	0	383	2,745	14%	4	1.0%	21%
BARTON	147	0	1	0	0	0	0	148	1,147	13%	1	0.7%	37%
BATES	205	1	0	0	0	0	0	206	1,260	16%	1	0.5%	34%
BENTON	158	0	2	0	0	0	0	160	973	16%	2	1.3%	13%
BOLLINGER	283	0	0	0	0	0	0	283	888	32%	0	0.0%	20%
BOONE	2249	3	0	1	0	0	0	2253	10,158	22%	4	0.2%	11%
BUCHANAN	1257	32	13	1	1	0	0	1304	6,488	20%	47	3.6%	43%
BUTLER	753	1	0	0	0	1	0	755	3,132	24%	2	0.3%	17%
CALDWELL	147	0	0	0	0	0	0	147	687	21%	0	0.0%	35%
CALLAWAY	441	0	0	0	0	0	0	441	3,088	14%	0	0.0%	15%
CAMDEN	330	2	0	0	0	0	0	332	2,083	16%	2	0.6%	4%
CAPE GIRARDEAU	650	8	0	1	2	0	0	661	4,940	13%	11	1.7%	20%
CARROLL	223	1	3	1	1	0	0	229	782	29%	6	2.6%	43%
CARTER	107	0	0	0	1	0	0	108	436	25%	1	0.9%	14%
CASS	1072	2	0	1	0	0	0	1075	7,347	15%	3	0.3%	12%
CEDAR	144	1	0	0	0	0	0	145	932	16%	1	0.7%	22%
CHARITON	108	0	0	0	0	0	0	108	517	21%	0	0.0%	39%
CHRISTIAN	1027	1	1	0	0	0	0	1029	4,987	21%	2	0.2%	9%
CLARK	87	0	0	0	0	0	0	87	548	16%	0	0.0%	34%
CLAY	879	0	0	0	0	0	0	879	15,744	6%	0	0.0%	12%
CLINTON	253	1	0	0	0	0	0	254	1,498	17%	1	0.4%	29%
COLE	974	3	2	0	0	0	0	979	5,529	18%	5	0.5%	19%
COOPER	281	0	0	0	0	0	0	281	1,179	24%	0	0.0%	37%
CRAWFORD	332	7	0	0	1	0	0	340	1,810	19%	8	2.4%	20%
DADE	104	0	0	0	0	0	0	104	547	19%	0	0.0%	38%
DALLAS	160	1	0	0	0	0	0	161	1,274	13%	1	0.6%	20%
DAVIESS	162	1	1	0	1	0	0	165	665	25%	3	1.8%	35%
DEKALB	120	0	0	0	0	0	0	120	714	17%	0	0.0%	31%
DENT	240	4	0	0	0	0	0	244	1,154	21%	4	1.6%	22%
DOUGLAS	270	1	0	0	0	0	0	271	945	29%	1	0.4%	23%
DUNKLIN	440	3	0	0	0	0	0	443	2,807	16%	3	0.7%	22%
FRANKLIN	937	4	0	0	1	1	0	943	7,814	12%	6	0.6%	19%
GASCONADE	159	1	0	0	0	0	0	160	1,067	15%	1	0.6%	31%
ENTRY	122	1	1	0	0	0	0	124	524	24%	2	1.6%	47%
GREENE	3631	19	6	1	3	2	0	3662	17,657	21%	31	0.8%	18%
GRUNDY	228	3	0	0	1	0	0	232	779	30%	4	1.7%	42%
HARRISON	190	1	0	0	0	0	0	191	662	29%	1	0.5%	46%
HENRY	301	2	0	0	0	0	0	303	1,554	19%	2	0.7%	28%
HICKORY	100	1	0	0	0	0	0	101	460	22%	1	1.0%	12%
HOLT	92	1	1	0	0	0	0	94	313	30%	2	2.1%	47%
HOWARD	233	3	0	0	1	0	0	237	693	34%	4	1.7%	39%
HOWELL	412	0	1	0	0	0	0	413	2,993	14%	1	0.2%	19%
IRON	361	3	0	0	2	0	1	367	760	48%	6	1.6%	20%

Jurisdiction	Total Tests < 10	10 - 14.9	15 - 19.9	20 - 24.9	25 - 44.9	45 - 69.9	>69.9	Total All Tests	Census Population	Total Population Tested	Total Tests ≥ 10	Total Tested ≥ 10	Pre-1950 Housing
JACKSON	16191	40	11	5	1	2	0	16250	54,836	30%	59	0.4%	28%
JASPER	2874	27	4	2	4	1	1	2913	9,070	32%	39	1.3%	31%
JEFFERSON	2070	4	5	1	1	0	0	2081	17,184	12%	11	0.5%	10%
JOHNSON	552	3	1	0	1	0	0	557	3,857	14%	5	0.9%	16%
KNOX	65	0	0	0	0	0	0	65	323	20%	0	0.0%	17%
LACLEDE	660	5	1	0	0	0	0	666	2,683	25%	6	0.9%	31%
LAFAYETTE	550	10	1	0	1	1	0	563	2,460	23%	13	2.3%	30%
LAWRENCE	586	4	1	0	1	0	0	592	3,034	20%	6	1.0%	36%
LEWIS	136	1	1	0	0	0	0	138	890	16%	2	1.4%	15%
LINCOLN	570	1	0	0	0	0	0	571	3,446	17%	1	0.2%	43%
LINN	152	0	1	0	0	0	0	153	1,028	15%	1	0.7%	35%
LIVINGSTON	287	1	1	0	0	0	0	289	1,090	27%	2	0.7%	22%
MACON	279	0	0	0	0	0	0	279	1,205	23%	0	0.0%	37%
MADISON	159	1	0	0	0	0	0	160	835	19%	1	0.6%	24%
MARIES	105	0	0	0	0	0	0	105	710	15%	0	0.0%	25%
MARION	709	8	2	1	4	1	0	725	2,278	32%	16	2.2%	41%
MCDONALD	385	3	0	0	1	0	0	389	2,003	19%	4	1.0%	37%
MERCER	69	0	1	0	0	0	0	70	248	28%	1	1.4%	16%
MILLER	269	1	0	0	0	0	0	270	1,925	14%	1	0.4%	27%
MISSISSIPPI	530	0	0	0	1	0	0	531	1,153	46%	1	0.2%	27%
MONITEAU	209	1	1	0	1	0	0	212	1,206	18%	3	1.4%	30%
MONROE	156	0	0	0	0	0	0	156	739	21%	0	0.0%	32%
MONTGOMERY	229	0	1	0	1	0	0	231	858	27%	2	0.9%	30%
MORGAN	167	1	0	0	0	0	0	168	1,393	12%	1	0.6%	12%
NEW MADRID	384	2	0	0	0	0	0	386	1,580	24%	2	0.5%	19%
NEWTON	1002	4	1	1	0	0	1	1009	4,458	23%	7	0.7%	22%
NODAWAY	187	0	0	0	0	0	0	187	1,266	15%	0	0.0%	36%
OREGON	254	2	1	0	1	0	0	258	732	35%	4	1.6%	27%
OSAGE	144	1	1	0	0	0	0	146	1,057	14%	2	1.4%	27%
OZARK	172	0	0	0	0	0	0	172	619	28%	0	0.0%	16%
PEMISCOT	309	2	1	0	0	0	0	312	1,981	16%	3	1.0%	22%
PERRY	146	1	0	0	0	0	0	147	1,489	10%	1	0.7%	26%
PETTIS	1003	10	6	2	0	0	0	1021	3,298	31%	18	1.8%	31%
PHELPS	748	1	1	0	0	0	0	750	2,769	27%	2	0.3%	17%
PIKE	269	2	0	0	0	0	0	271	1,190	23%	2	0.7%	30%
PLATTE	368	1	0	1	0	0	0	370	6,044	6%	2	0.5%	8%
POLK	501	2	1	0	0	0	0	504	2,204	23%	3	0.6%	22%
PULASKI	387	1	0	0	1	0	0	389	3,778	10%	2	0.5%	12%
PUTNAM	59	0	0	0	0	0	0	59	382	15%	0	0.0%	31%
RALLS	192	1	1	0	1	0	0	195	667	29%	3	1.5%	24%
RANDOLPH	363	3	1	0	0	0	0	367	1,899	19%	4	1.1%	33%
RAY	486	1	0	0	0	0	0	487	1,875	26%	1	0.2%	26%
REYNOLDS	72	1	0	0	1	0	0	74	474	16%	2	2.7%	16%
RIPLEY	200	1	0	0	0	0	0	201	980	21%	1	0.5%	15%
SALINE	534	2	2	0	0	0	0	538	1,737	31%	4	0.7%	5%
SCHUYLER	97	0	0	0	0	0	0	97	316	31%	0	0.0%	29%
SCOTLAND	134	2	0	0	0	0	0	136	421	32%	2	1.5%	19%
SCOTT	840	2	0	0	1	0	0	843	3,430	25%	3	0.4%	22%

Jurisdiction	Total Tests < 10	10 - 14.9	15 - 19.9	20 - 24.9	25 - 44.9	45 - 69.9	>69.9	Total All Tests	2000 Census Population	Total Population Tested	Total Tests ≥ 10	Total Tested ≥ 10	Pre-1950 Housing
SHANNON	78	1	0	0	0	0	0	79	611	13%	1	1.3%	18%
SHELBY	192	0	1	0	0	0	0	190	480	40%	1	0.5%	65%
ST CHARLES	2476	3	3	0	0	0	0	2369	26072	10%	6	0.2%	35%
ST CLAIR	91	0	0	0	0	0	0	86	628	14%	0	0.0%	46%
ST FRANCOIS	1083	17	9	1	4	0	0	1060	4040	28%	31	2.8%	48%
ST LOUIS CITY	14160	223	10	25	21	1	0	13866	28369	22%	329	0.4%	65%
ST LOUIS CO	17098	60	59	3	4	0	0	16752	77612	51%	77	2.3%	22%
STE GENEVIEVE	260	2	3	0	0	0	0	271	1314	20%	5	1.9%	44%
STODDARD	489	1	0	0	0	0	0	493	2048	24%	1	0.2%	19%
STONE	334	2	0	0	0	0	0	272	1866	18%	2	0.6%	9%
SULLIVAN	291	1	0	0	0	0	0	268	618	47%	1	0.3%	45%
TANEY	612	3	0	0	0	0	0	582	2909	21%	3	0.5%	6%
TEXAS	250	2	0	0	0	0	0	278	1612	16%	2	0.8%	20%
VERNON	334	7	0	0	0	0	0	289	1628	21%	7	2.1%	32%
WARREN	373	0	0	0	0	0	0	367	1929	19%	0	0.0%	12%
WASHINGTON	353	15	0	0	0	0	0	366	1844	20%	15	4.1%	14%
WAYNE	123	1	0	0	0	0	0	125	850	15%	1	0.8%	16%
WEBSTER	396	0	1	0	0	0	0	366	2839	14%	1	0.3%	19%
WORTH	28	1	0	0	0	0	0	20	152	19%	1	3.4%	57%
WRIGHT	193	0	0	0	0	0	0	354	1496	13%	0	0.0%	27%
Grand Total	97865	609	168	48	68	10	3	98771	445,566	22%	906	0.9%	24%

Activities Funded by the CLPPP Cooperative Agreement

Contracts

St. Louis City, St. Louis County and Kansas City are Missouri's three largest metropolitan areas. According to 2000 census data and 2010 surveillance data, these three areas combined contain 47 percent of Missouri's children with elevated blood lead levels (422 of 906). To decrease the prevalence of EBL's in these areas, DHSS contracts with the LPHAs to provide lead poisoning prevention educational activities, assure case management, and environmental risk assessments.

Environmental contracts were established for other regions of the state to assure that children with an EBL receive an accurate and timely environmental risk assessment. These contracts provide EBL risk assessments for 45 of the 114 counties. CLPPP Environmental Specialists provide EBL risk assessments in the remaining counties. Establishing the contracts resulted in more complete and timely compliance with conducting and reporting of risk assessment. Under the contracts, data is collected to track compliance with remediation recommendations.

Lead Poisoning Prevention Education

CLPPP develops an educational campaign and distributes materials to advocates statewide each year. The campaign goal is to provide stakeholders with the tools necessary to promote lead poisoning prevention. Themes, fact sheets, posters and public service announcements are examples of campaign materials. The materials are used during lead poisoning prevention month to intensify the statewide effort. The "Lead-Free Kids for a Healthy Future" campaign flyers and posters were distributed to stakeholders statewide in 2010 and are archived on the CLPPP website: health.mo.gov/living/environment/lead/index.php.

CLPPP also develops and distributes a newsletter each year for local and state partners. The NewsLEADER contains resource information such as new publications available, websites and tips for successful public outreach. Stakeholders are encouraged to share their lead poisoning prevention activities and ideas. Several educational brochures and fact sheets that focus on specific lead related issues such as "Pregnancy and Lead Poisoning" and "A Health Care Provider's Guide to Lead Screening and Testing Requirements" are also available and can be ordered for community-wide use.

Educational materials are also available and displayed at health fairs, home shows, blood lead testing events and other public events when possible. Display boards are decorated with lead posters, signs, facts and other educational materials. The display boards are helpful to capture people's attention and draw them in to learn about lead poisoning prevention and other healthy homes topics.

Campaign information, newsletters, fact sheets, booklets and other publications are all available to the public on the CLPPP webpage.

The webpage also features: upcoming events, lead testing guidelines, Missouri lead testing maps, product recalls, data and statistical reports, laws, regulations and manuals.

During fiscal year 2012, CDC will be converting CLPPP funding to a broader Healthy Homes funding. It is not yet clear how this will impact funding for Childhood Lead Poisoning Prevention activities.

Collaborations

Case Management Services

Case Management of children with elevated blood lead levels involves coordinating, providing and overseeing the services required to reduce the child's blood lead level to less than 10 µg/dL, the CDC level of concern. Empowering parents and communities with knowledge regarding childhood lead poisoning and methods of primary prevention are also among the core elements of lead case management. Lead case management services are based on the efforts of an organized team and are child- and family-centered. Case management services may be provided by the child's primary care physician, a local public health agency, a MO HealthNet Managed Care health plan or another contracted agency. CLPPP and MO HealthNet staff monitor case management for children identified with a blood lead level greater than or equal to 10 µg/dL.

Environmental Services

The Missouri Public Health System provides lead risk assessment services to detect hazardous sources of lead exposure in children's homes. This service is provided for children age 6 and younger who have a confirmed venous blood lead level of 15µg/dL or greater.

A risk assessment is conducted by a professional trained and licensed by the DHSS Lead Licensing Program. The assessor consults with the child's family to determine areas of the home where the child may come into contact with lead. X-ray Fluorescence Analyzers (XRF's) are used to analyze painted surfaces and household objects such as toys and mini-blinds. Dust, soil and water samples are collected to determine if and where lead hazards exist. Upon completing the assessment and receiving the lab analysis, the risk assessor provides the property owner and/or occupant (if other than the owner) with recommendations for reducing lead hazards. The risk assessor revisits the home at an agreed-upon time to assure lead hazard reduction has been accomplished. The risk assessor collaborates with the child's parent or legal guardian, property owner, LPHA or MO HealthNet lead case manager, DHSS CLPPP staff, and the child's physician as indicated, as part of their role in case management of the elevated child.

Healthy Homes

Since the beginning of the "Is Your Home Healthy?" exhibit in 2007, the exhibit has been adapted for use at a variety of events throughout the state. The main exhibit features two Bureau of Environmental Epidemiology programs, the Childhood Lead Poisoning Prevention Program and the Indoor Air/Radon Program. The exhibit sometimes features a dollhouse, on loan from the St. Louis County Health Department, showing where environmental hazards may be found in the home. Shadow boxes containing examples of toys that contain lead, lead fishing equipment and non-lead alternatives, and sources of mercury are also used at some events. Information is available to the public on a variety of topics including lead poisoning prevention, radon and mold remediation, the fish consumption advisory, asbestos-containing vermiculite insulation, carbon monoxide poisoning, heat or cold illness prevention, mercury handling and disposal, and other topics as appropriate for the event and audience. Coloring and activity books, sponges, magnets and stickers are available to capture the interest of guardians and children. Program staff members are available to answer questions about environmental health concerns from citizens. The exhibit also features hand washing information from the Bureau of Communicable Disease Control and Prevention and tick and mosquito repellent information from the Vector Borne Disease Program.

Between July 1, 2009 and June 30, 2010, “Is Your Home Healthy?” was displayed at 15 different venues across the state. These included the new local public health administrators training, St. Louis Home and Remodeling Shows, Missouri Milk Food and Environmental Health Association conference, school nurses conference, medical conferences, Parents as Teachers events, school health fairs and senior fall prevention events.

The “Is Your Home Healthy?” exhibit is an ongoing collaborative effort between Bureau of Environmental Epidemiology programs, the Lead Licensing Program, the Bureau of Communicable Disease Control and Prevention, the Vector Borne Disease Program and the local health departments. This outreach effort is helping to build partnerships with outside organizations such as Parents as Teachers, child advocates, school nurses, contractors, environmental health professionals, senior citizen groups and parents. At the same time, it is providing valuable information to and educating the citizens of Missouri about environmental hazards in their homes.

Agency for Toxic Substance and Disease Registry (ATSDR)/Environmental Protection Agency (EPA)/Missouri Department of Natural Resources (MDNR)

Lead mining, milling and smelting has occurred throughout the lower half of Missouri. Missouri ranks as the top lead-producing state in the nation. Across the state, there are 60 counties that are potentially impacted by lead mining-related activities.

In St. Francois County, six large mine tailings and chat piles from past mining and milling operations are located near residential areas. Tailings and chat piles are “mining waste” which is the waste from the processing of lead-bearing rock. Over time, mine waste has migrated off the waste piles and ponds into the surrounding community. The movement of tailings into the community has been caused by wind or water erosion, or from human activities, such as using the lead waste as fill material in yards or driveways. Lead mine tailings have also been used for traction along roads in winter and as fill in sandboxes.

Areas listed on the EPA’s National Priorities List for lead contamination include sites in St. Francois, Jefferson, Washington, Newton, Iron and Madison Counties. In addition, there is an active lead smelter in Herculaneum, Missouri. The smelter processes lead concentrate from current mining and milling operations into lead ingots for further use in consumer products like batteries and computers.

DHSS, along with other state, local and federal agencies (including ATSDR, EPA and MDNR) is addressing these sites to protect public health. Multiple actions have been taken to reduce human exposure and prevent lead poisoning, especially to children less than 6 years old. Some of the activities to reduce lead exposure include monitoring of air, sampling of soil, water and dust, stabilization of the tailings piles, yard soil removals, street cleanings, interior home cleaning, reduction in smelter air emissions and special blood lead testing events. Additional activities conducted by DHSS include health studies, health consultations, public health assessments and ongoing educational activities.

BROWNFIELD PROJECT

Vast areas of Missouri may have high levels of lead in soil and/or groundwater due to naturally occurring lead deposits and from past and present lead mining and production. Given the recent rapid expansion of urban sprawl, many previously undeveloped properties are now being looked at by developers for residential housing and other types of increased land use. Development of this nature on mining impacted lands potentially exposes new populations to lead and other heavy metal contaminants.

Under a grant from ATSDR, DHSS is developing a guide for Missouri communities to increase awareness and to encourage consistency among local governments in addressing public health implications associated with reuse and redevelopment of areas with potential mining contamination.

As another part of this project, DHSS has undertaken efforts to increase testing for lead in drinking water by working with the State Public Health Laboratory to add lead to its list of analytes included in the New Well Series for private drinking water supplies and by recommending actions that local public health agencies can take to increase testing. DHSS has also developed new health education materials to promote water testing for lead. To assist in responding to homeowner concerns for those identified with lead impacts to their drinking water system, a lead in drinking water fact sheet with recommendations for reducing exposure has been developed that can be provided along with test results. These new health education materials can be found at:

health.mo.gov/living/environment/lead/whatsnew.php

DHSS Lead Licensing Program

The Lead Licensing Program is responsible for accrediting training providers, licensing lead inspectors, risk assessors, lead abatement contractors, lead abatement supervisors, lead abatement workers and project designers who conduct any type of lead abatement activities, inspections, risk assessments, clearance sampling or training. Employees of this section will make unannounced site visits to ensure that all supervisors, workers, lead inspectors, risk assessor or training providers have a license or accreditation to conduct the lead abatement related activity and that it is being conducted correctly and safely. This is to ensure the safety of the residents, who may not know the harmful effects of improper lead abatement work practices. Like CLPPP, the Lead Licensing Program plays an important role in keeping children and the general public safe from lead hazards. All risk assessors that are a part of CLPPP are licensed and overseen by the Lead Licensing Program. Training collaborations included risk assessors and staff trained by a representative for Thermo Scientific NITON XRF Analyzers. Eleven new models were purchased to replace outdated ones.

Missouri Department of Social Services (MDSS), MO HealthNet Division (MHD)

CLPPP assesses the MO HealthNet status of all Missouri children with confirmed blood lead levels 10 µg/dL or greater via inquiry into the MO HealthNet database. The MO HealthNet status is coded into MOHSAIC to generate reports of EBL children that are sent to MHD. These reports are then forwarded to each MO HealthNet Managed Care health plan by MO HealthNet staff for follow up. Case management activities for the MO HealthNet Managed Care health plan children are documented directly into the Environmental Surveillance portion of MOHSAIC, also known as ENV/SURV, by the Lead Case Management staff in the Local Public Health Agencies as well as by the MO HealthNet Managed Care health plan lead case managers. This helps to facilitate greater communication regarding follow up of EBL children among the MO HealthNet Managed Care health plans, MHD, DHSS and the local public health agencies.

System changes will be occurring in the future to provide MO HealthNet the ability to generate reports of EBL children for each MO HealthNet Managed Care health plan using a systematic reporting frequency as well as on demand reports of EBL children as indicated. MO HealthNet will forward these reports to each health plan respectively.

Women, Infant, and Children (WIC) Program

Elevated blood lead levels that affect intelligence, behavior and development of children less than 6 years of age disproportionately affect minority and poor children. The Special Supplemental Nutrition Program for WIC is an important partner in efforts to combat the health risks of lead poisoning. By identifying high-risk children through a screening process during WIC clinic visits, referring children to their primary care provider for testing, or making blood lead testing available on-site, the likelihood that every child will be tested is improved. This collaboration with WIC staff can assist in identifying children with EBLs that will need appropriate, timely follow up of the elevation until the child's lead level falls below 10 µg/dL. Copies of the Sesame Street Lead Away program were provided to WIC clinics for presenting lead poisoning prevention education to their clients.

Missouri Department of Economic Development

The Missouri Department of Economic Development (DED) currently works with cities and counties to assure that Community Development Block Grant (CDBG) funding is made available for properties where children have been identified with an EBL. DHSS works with DED to locate funding for remediation. The FY 2008-2012 Consolidated Plan produced by DED includes Targeted and Universal Testing Area maps, blood lead testing data by county, and percentage of pre-1950 housing data for the state. The document also contains the Missouri Housing Development Commission's lead-based paint policies and procedures and the HOME Repair (HERO) Program's and HOME Rental Production Program's lead-based paint reference guide.

Missouri Local Public Health Agencies (LPHA's)

Many LPHA's offer blood lead testing within their counties. Some agencies offer free blood lead testing on-site or referrals to other providers that offer testing. Most of these agencies have a nurse that assists with case management for children who have EBL's; however, this nurse also works in collaboration with the child's primary care physician, parent or guardian, and environmental risk assessors. CLPPP staff collaborates with LPHA staff regarding EBL cases to provide as well as enhance the overall management of the case and associated lead hazards. Lead poisoning education and outreach is often offered at the local health agency office as well as through local health fairs, physicians' offices and child care facilities. During National Lead Poison Prevention Week, each year in October, LPHA's use either internal or DHSS educational campaigns to further community awareness of childhood lead poisoning and important prevention techniques. The CLPPP program provides these agencies with educational materials and technical assistance for any other issues such as the use of the MOHSAIC application or training on program and regulatory requirements. The LPHA's long time public health partnership with DHSS CLPPP staff and their ongoing support and efforts play a key role in helping to reduce childhood lead poisoning as well as achieve the ultimate goal to eliminate childhood lead poisoning.

Meramec Regional Planning Commission (MRPC)

Although CLPPP funding is not used for abatement services, CLPPP staff established a contract with the Meramec Regional Planning Commission (MRPC) to provide lead abatement in homes within a 175 mile radius of MRPC's office. Priority is given to income-qualified families with EBL children. Abatement work began in 2009. Two properties were abated during the grant year and two others are currently under consideration.

Missouri State Medical Association and Missouri Academy of Family Physicians

Dr. Jennifer Lowry, Co-Director of Mid-America Pediatric Environmental Health Specialty Unit, presented at the Missouri State Medical Association's Annual Convention and at the Missouri Academy of Family Physician's Annual Scientific Assembly. Several suggestions for outreach came from the evaluations completed by attendees. An outreach to the OB/GYN residency programs in Missouri should be conducted to include prenatal leading screening and testing as needed. Follow-up articles in the newsletters or journals of these and other medical associations will be submitted each year to update the Universal and Targeted Testing Areas.

For more information on lead poisoning prevention contact:

Missouri Department of Health and Senior Services
Bureau of Environmental Epidemiology
930 Wildwood Drive
Jefferson City, MO 65109
Phone: (573) 751-6102 or (866) 628-9891

Or visit our website at:
health.mo.gov/living/environment/lead/index.php